Paper 15

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte LOTFI BENMOHAMED,
SUBRAHMANYAM DRAVIDA,
PARAMASIVIAH HARSHAVARDHANA,
WING CHEONG LAU
and
AJAY KUMAR MITTAL

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Appeal No. 2002-2288
Application No. 09/198,727

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ON BRIEF

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Before LEE, MOORE, and POTEATE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge.*

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1-42, which are all of the pending claims.

The appellants have indicated (Brief, page 3) that, for the purposes of this appeal, the claims will stand or fall together. Consistent with this indication, Appellant has made no separate arguments with respect to the remaining claims. Accordingly, all the claims will stand or fall together, and we will select claim XX, the broadest independent claim as representative of all of the

claims on appeal. Note 37 CFR §1.192(c)(7); see also In re Dance, 160 F.3d 1339, 1340 n.2, 48 USPQ2d 1635, 1636 n.2 (Fed. Cir. 1998); In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Claim 1 reads as follows:

1. A processor-based method for designing a packet-based communications network, comprising the steps of:

computing a pair of link capacity values for each link to be included between nodes in a topology of the packet-based communications network, the link capacity values representing an upper bound and a lower bound of a link capacity range based on a set of flow demands, a round trip delay and a link congestion scenario associated with at least one connection requirement; and

outputting the link capacity values for selection of the value at or within the upper and lower bounds for each link, which substantially satisfies the at least one connection requirements, for specification in the network topology.

The References

No references are cited against the pending claims.

The Rejection

Claims 1-42 stand rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Invention

The invention relates to a method and apparatus for designing packet-based networks and specifically for designing internet

protocol (IP) networks with performance guarantees.

(Specification, page 1, lines 9-10).

The Rejection of Claims 1-42 Under 35 U.S.C. § 112

The examiner's rejection is repeated below, as it pertains to claim 1:

> Claim 1 describes a mathematical algorithm. A pair of link capacity values is computed for each link, and specific link values are "output." But neither the claim nor the specification provides any description of the apparatus that outputs these values. Furthermore, no description of the physical form taken by the "values" that are output is provided. Fig. 1 is the only figure that depicts the system that would perform the mathematical algorithm. But the block diagram form of Fig. 1 provides inadequate detail to enable one of ordinary skill in the art to make or use the invention as claimed without performing undue experimentation. (Examiner's Answer, page 3, lines 3-10).

The appellants, on the other hand, assert that consideration of the factors as set forth in In re Wands, 858 F.2d 731, 735, 736-37, 8 USPQ2d 1400, 1402, 1404 (Fed. Cir. 1988) results in the conclusion that the specification is enabling to one of ordinary skill in the art. The appellants urge that the specification sets forth in detail the link capacity values, upper and lower bounds, link congestion scenario, and various types of network traffic. It is contended that the details provided by the flow charts in the context of the illustrative processing system are such that one of ordinary skill in the art would be capable of performing the link capacity value computation without undue experimentation. (Appeal Brief, page 6, lines 11-21).

In the Examiner's Answer, the examiner asserts that the lack of enablement is evidenced by the impossibility of determining whether the claims are directed to a simulator or a controller (Examiner's Answer, page 7, lines 3-15); and the appellants have not clarified the art to which the invention pertains (Id., page 7, lines 16-19).

We observe that a finding of lack of enablement is a legal conclusion which is based on the facts of any particular application. Enzo Biochem, Inc. v. Calgene, Inc., 188 F.3d 1362, 1369-70, 52 USPQ2d 1129, 1134 (Fed. Cir. 1999).

The first paragraph of 35 U.S.C. § 112 provides the standard for the legal conclusion:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

This standard has been interpreted and applied by our reviewing court in In re Vaeck, 947 F.2d 488, 495, 20 USPQ2d 1438, 1444 (Fed. Cir. 1991) as follows:

> The first paragraph of 35 USC 112 requires, inter alia, that the specification of the patent enable any person skilled in the art to which it pertains to make and use the claimed invention. Although the statute does not say so, enablement requires that the specification teach those in the art to make and use the invention without "undue experimentation." In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed.

> Cir. 1988). That some experimentation may be required is not fatal; the issue is whether the amount of experimentation required is "undue." Id. At 736-37, 8 USPQ2d at 1404.

A conclusion of lack of enablement must first be made by the Examiner, based upon facts.

> "By now it is well settled that the examiner bears the initial burden of providing reasons why a supporting disclosure does not enable a claim." In re Marzocchi, 439 F.2d 220, 223, 169 USPQ 367, 369 (CCPA 1971) The Examiner must assess the state of the art in order to determine the level of ordinary skill. In re GPAC Inc., 57 F.3d 1573, 35 USPQ2d 1116 (Fed. Cir. 1995).

Among the facts to be considered when arriving at the legal conclusion of whether the claimed invention is enabled within the specification are:

> The question of whether making and using the invention would have required "undue experimentation" depends on several underlying factual inquiries including: (1) the quantity of experimentation necessary; (2) the amount of direction or guidance presented; (3) the presence or absence of working examples; (4) the nature of the invention; (5) the state of the prior art; (6) the relative skill of those in the art; (7) the predictability or unpredictability of the art; and (8) the breadth of the claims. Wands, 858 F.2d at 736-37, 8 USPQ2d at 1404.

We conclude that the examiner has failed to carry the burden of showing that the claimed subject matter is not enabled. As a consequence, we reverse this rejection.

First, in attacking enablement, the examiner contends that neither the claim nor the specification provides any description of the apparatus that outputs the calculated values, and that no

description of the physical form taken by the "values" that are output is provided. We disagree. The claim recites that the method is "processor based" and the specification at page 7, lines 1-14 lay out the routing processor, the optimization processor, and the capacity to bandwidth processors. The specification also illustrates that the output is displayed as information to the user of the design system.

Second, the examiner states that Fig. 1 is the only figure that depicts the system that would perform the mathematical algorithm and that the block diagram form of Fig. 1 provides inadequate detail to enable one of ordinary skill in the art to make or use the invention as claimed without performing undue experimentation. Again, we disagree with the examiner's conclusion. Although informal, the drawings of figures 1-5 appear to outline the manner of performing the claimed method, and the specification discusses the manner in which the method is to be implemented in sections 1.0 (link capacity computations), 2.0 (network topology optimization).

Further, and relating to all the claims under rejection, the examiner has not made a finding as to the level of ordinary skill in the art such that a conclusion can be drawn. The appellants urge that the choice of programming language and processor is a design choice well within the skill level or the reasonable

artisan (Appeal Brief, page 9, lines 2-5). While this is only attorney argument and not evidence, it illustrates the point that the examiner has provided no evidence or argument relating to the level of ordinary skill in the art and whether or not the level of disclosure would cause undue experimentation to be required of that hypothetical artisan.

Indeed, the examiner is not sure of the art to which the claimed invention pertains. (Examiner's Answer, page 7, lines 16-19). Consequently, when the examiner repeatedly states that the "specification offers no detail that would enable one of ordinary skill in the art to make or use the invention as claimed" (Examiner's Answer, page 3, lines 12-13, 15-16 and 18-19; page 4, lines 11-12, 13-14, and 16-17) one cannot be sure where the bar for one of ordinary skill in the art has been placed.

In the absence of the proper application of the factors outlined in Wands, supra, we shall reverse this rejection.

Summary of Decision

The rejection of claims 1-42 under 35 U.S.C. § 112, first paragraph, is reversed.

REVERSED

JAMESON LEE Administrative Patent Judge	)	
JAMES T. MOORE Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
LINDA R. POTEATE Administrative Patent Judge	)	

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